Stacking:
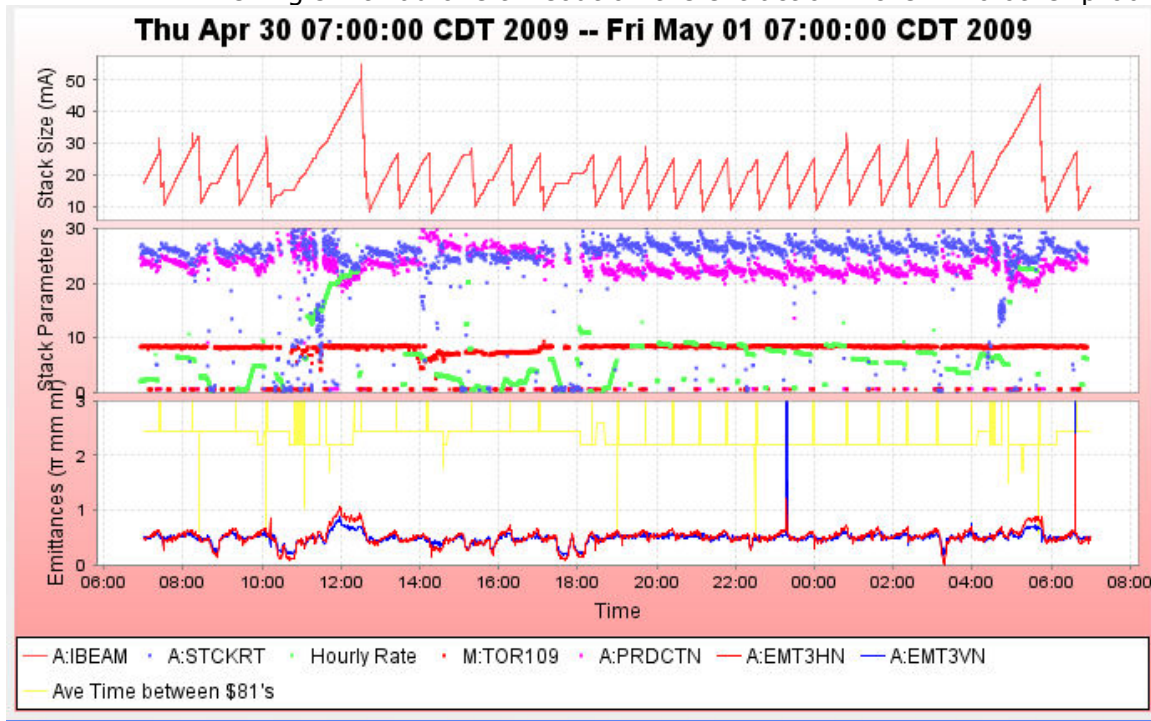
- Stacked 546mA in 23.7hrs of stacking
  - Average stack rate 25.6mA/hr
  - Average production 22.85e-6/p
  - Average beam on target 7.75e12 protons
- After lots of controls problems on the previous owl shift, we started of the day shift with a reboot of Pbar FE and CNS1 (where the Pbar sequencer is run).
  - We were ok in the morning, sequencer problems came back in the afternoon.
  - Rich Neswold reverted FE code to a version that takes recent changes out.
  - Evening shift had one timeout on the extraction kicker. No other problems.

Transfers

- Unstacked 547e10 in 56 transfers over 26 sets
  - Overall efficiency from the Accumulator to Recycler was 95%
  - Take out the two sets of four transfers that had a slightly lower efficiency and our efficiency was 95.7%
  - This is down slightly.

Number_0_Pbar Transfer Shot #	Number_3_Transfer Time		Number_20_A:I BEAMB sampled on $91 (A:BEAM7), E10	Number_21_A:I BEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Number_22_R: BEAMS (R:BEAME0[0]) pre xfer E10	Number_23_R: BEAM (R:BEAME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets	Number_4_Acc Horizontal Emittance	Number_5_Acc Vertical Emittance	Number_7_Acc Longitudinal Emittance
	Totals =>				547.51			521.75	95.30%	96.80%	96.76%	56	26	4.9074	4.4927	1.8847
12887	Friday, May 01, 2009	6:38	27.49	9.15	19.62	57.80	76.71	18.93	96.47%	97.40%	97.28%	2	1	4.95	4.378	1.862
12886	Friday, May 01, 2009	4:00	48.34	8.28	44.16	16.59	57.94	41.43	93.82%	95.91%	95.89%	4	1	5.752	5.041	1.926
12885	Friday, May 01, 2009	3:08	27.63	10.00	18.87	367.65	385.43	17.93	95.03%	96.80%	98.22%	2	1	5.156	4.746	1.884
12884	Friday, May 01, 2009	2:22	28.00	9.89	19.38	351.18	369.50	18.43	95.14%	97.30%	97.81%	2	1	5.133	4.649	1.865
12883	Friday, May 01, 2009	1:39	27.68	9.79	19.13	334.33	352.44	18.20	95.17%	98.06%	96.93%	2	1	4.979	4.983	1.883
12882	Friday, May 01, 2009	0:50	29.56	10.44	20.42	316.10	335.42	19.47	95.33%	96.61%	96.68%	2	1	5.282	4.831	1.878
12881	Friday, May 01, 2009	23:59	29.63	10.62	20.26	297.97	317.05	19.23	94.88%	97.45%	97.07%	2	1	5.231	4.518	1.885
12880	Thursday, April 30, 2009	23:19	25.30	9.07	17.54	282.35	298.97	16.73	95.38%	97.99%	97.45%	2	1	4.526	4.037	1.884
12879	Thursday, April 30, 2009	22:32	27.36	9.57	19.05	264.88	283.03	18.24	95.78%	97.34%	95.32%	2	1	4.904	4.741	1.874
12878	Thursday, April 30, 2009	21:48	25.01	8.96	17.33	248.84	265.47	16.68	96.28%	98.21%	96.03%	2	1	4.629	4.314	1.89
12877	Thursday, April 30, 2009	21:06	25.51	8.84	17.92	232.31	249.37	17.17	95.82%	97.66%	98.48%	2	1	4.562	4.242	1.88
12876	Thursday, April 30, 2009	20:26	24.95	8.55	17.65	215.91	232.77	16.93	95.95%	97.21%	96.73%	2	1	4.976	4.245	1.871
12875	Thursday, April 30, 2009	19:44	25.42	9.21	17.49	199.60	216.27	16.71	95.56%	96.62%	96.79%	2	1	5.188	4.672	1.91
12874	Thursday, April 30, 2009	19:04	25.16	8.72	17.74	182.88	199.83	17.10	96.43%	96.89%	96.27%	2	1	4.67	4.351	1.857
12873	Thursday, April 30, 2009	18:23	25.79	9.16	17.92	165.99	183.07	17.17	95.78%	95.90%	96.70%	2	1	4.888	4.484	1.889
12872	Thursday, April 30, 2009	17:03	26.23	9.87	17.62	149.45	166.22	16.81	95.39%	97.02%	96.74%	2	1	4.762	4.434	1.877
12871	Thursday, April 30, 2009	16:18	26.73	9.15	18.84	131.66	149.72	18.13	96.23%	96.83%	97.28%	2	1	4.815	4.346	1.912
12870	Thursday, April 30, 2009	15:19	29.50	10.26	20.44	112.52	131.84	19.39	94.86%	95.43%	95.89%	2	1	5.398	4.511	1.883
12869	Thursday, April 30, 2009	14:14	28.42	9.91	19.76	93.71	112.67	18.97	96.00%	95.76%	95.66%	2	1	3.973	4.027	1.893
12868	Thursday, April 30, 2009	13:26	27.14	8.10	20.14	74.61	93.88	19.38	96.23%	97.58%	98.37%	2	1	3.81	3.604	1.834
12867	Thursday, April 30, 2009	12:31	26.76	9.60	18.43	57.19	74.70	17.57	95.35%	97.26%	96.59%	2	1	4.683	4.336	1.893
12866	Thursday, April 30, 2009	10:09	51.20	8.55	46.40	14.50	57.28	42.98	92.61%	94.70%	95.02%	4	1	5.827	5.058	1.921
12865	Thursday, April 30, 2009	9:22	28.51	10.04	19.73	352.83	371.55	18.88	95.67%	96.13%	97.03%	2	1	4.803	4.802	1.892
12864	Thursday, April 30, 2009	8:23	29.56	10.68	20.18	334.60	353.87	19.37	96.00%	97.30%	97.40%	2	1	5.127	4.722	1.894
12863	Thursday, April 30, 2009	7:26	32.23	11.17	22.29	314.37	335.77	21.52	96.54%	98.23%	97.75%	2	1	4.859	4.217	1.865
12862	Thursday, April 30, 2009	5:43	28.17	10.24	19.24	297.06	315.38	18.43	95.77%	97.36%	97.71%	2	1	4.709	4.521	1.9

Number_3_Transfer Time		Number_20_A:I BEAMB sampled on $91 (A:BEAM7), E10	Number_21_A:I BEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Number_22_R: BEAMS (R:BEAME0[0]) pre xfer E10	Number_23_R: BEAM (R:BEAME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Transfers	Sets	Number_4_Acc Horizontal Emittance	Number_5_Acc Vertical Emittance	Number_7_Acc Longitudinal Emittance
Totals =>				456.95			437.35	95.71%	97.10%	97.02%	56	24	4.8339	4.4463	1.8815

Studies
- None

Requests
- General tuning

The Numbers
- Al's Numbers
  - Stacking
    - Pbars stacked: 546.82 E10
    - Time stacking: 23.69 Hr
    - Average stacking rate: 23.08 E10/Hr
  - Uptime
    - Number of pulses while in stacking mode: 36343

- □ Number of pulses with beam: 33540
- □ Fraction of up pulses was: 92.29%

- ▪ The uptime's effect on the stacking numbers
  - □ Corrected time stacking: 21.87 Hr
  - □ Possible average stacking rate: 25.01 E10/Hr
  - □ Could have stacked: 592.52 E10/Hr

- ▪ Recycler Transfers
  - □ Pbars sent to the Recycler: 547.51 E10
  - □ Number of transfers : 56
  - □ Number of transfer sets: 26
  - □ Average Number of transfer per set: 2.15
  - □ Time taken to shoot including reverse proton tuneup: 00.31 Hr
  - □ Transfer efficiency: 95.42%

- ▪ Other Info
  - □ Average POT : 7.58 E12
  - □ Average production: 21.51 pbars/E6 protons

- ▪ * Missed one or more A:IBEAM7 events somewhere in the middle of the user selected time span. Calculated time shot using 13 secs per transfer.

- ○ Paul's Numbers
  - ▪ Most in a half hour: 13.26 mA at Thu Apr 30 20:18:02 CDT 2009
  - ▪ Best Hour: 28.56 mA on 20-Dec-08
  - ▪ Average Production 22.98 e-6/proton Best: 25.41 e-6/proton on 01/30/2008
  - ▪ Average Protons on Target 6.61 e12 Best: 8.77 e12 on 07/24/2007

Misc

Bullseye Re-play

01-MAY-2009 02:22:47

Pbar   ACC->MI line 52

H ●   V △

	HORZ			VERT		
#	ampl	phas	rms	ampl	phas	rms
1	0.73	-0.50	0.06	0.73	1.98	0.03
2	1.27	-0.16	0.06	0.96	1.71	0.04
3	1.18	0.55	0.05	0.89	1.37	0.04
4	1.01	-0.41	0.05	0.87	1.69	0.02
5	1.34	-0.68	0.06	0.56	1.08	0.07
6	0.57	-0.52	0.04	0.64	1.76	0.03

90
180
0   4 mm
270

#	CLK	DAQ-Time	Sent?	H	V
1	94	01-MAY 02:22:47		Y	Y
2	94	01-MAY 03:08:16		Y	Y
3	94	01-MAY 04:00:23		Y	Y
4	94	01-MAY 05:43:38		Y	Y
5	94	01-MAY 05:50:02		Y	Y
6	94	01-MAY 06:39:13		Y	Y